

Participation of planktonic and benthic bacteria in the polyphosphate accumulating process in mesocosms contaminated with phosphates and nitrates

Morozova O., Ratushnyak A., Trushin M.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Participation of planktonic and benthic bacteria in accumulation of polyphosphates in conditions of nitrates and phosphates overload was investigated in model mesocosms with natural water containing hydrobionts and curtains of *Typha angustifolia*. Experiments were performed in seasonal dynamics. Dynamic of number of bacterioplankton and benthic bacteria was studied in ecosystems of water and ground. It was detected that structure and number of bacterioplankton and benthic bacteria depended on the presence of higher aquatic plants in model biotopes. In overgrown biotopes overload on nitrates and phosphates resulted in development of planktonic and benthic bacteria. Reduction of trophic status of hydro ecosystem on bacterioplankton and low concentrations of biogens were favorable conditions for accumulation of polyphosphates by bacteria. © IDOSI Publications, 2012.

<http://dx.doi.org/10.5829/idosi.wasj.2012.19.01.64182>

Keywords

Auto purification, Bacterioplankton, Benthic bacteria, Nitrates, Phosphates